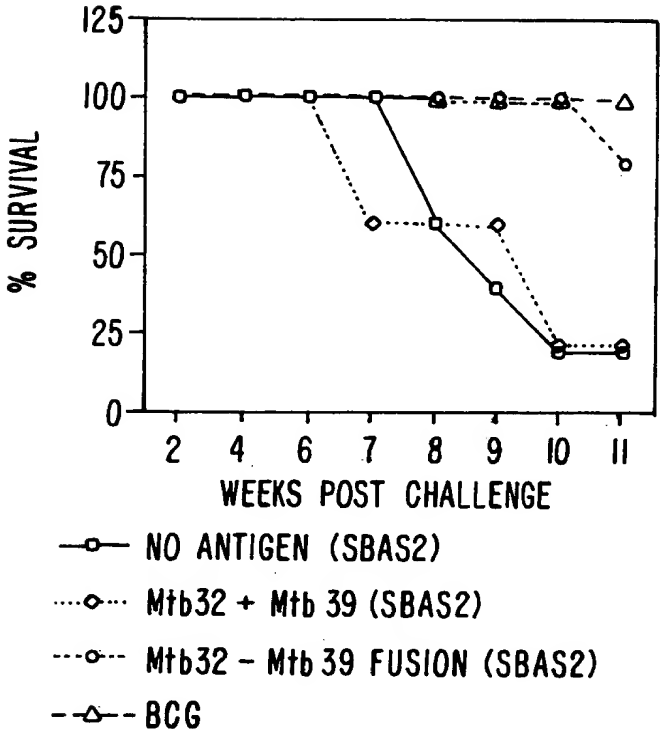

FIG. 1.

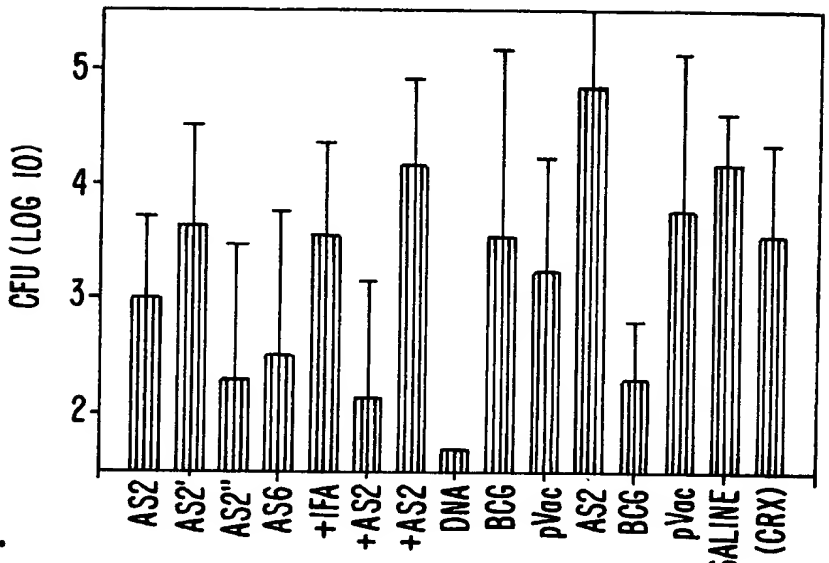

FIG. 2A.

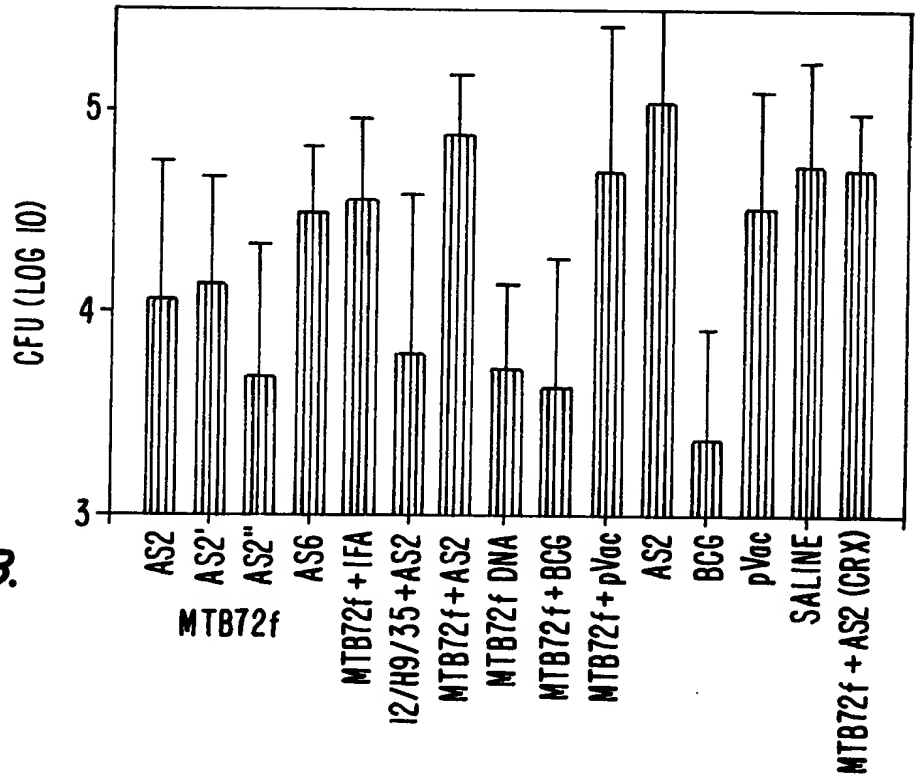

FIG. 2B.

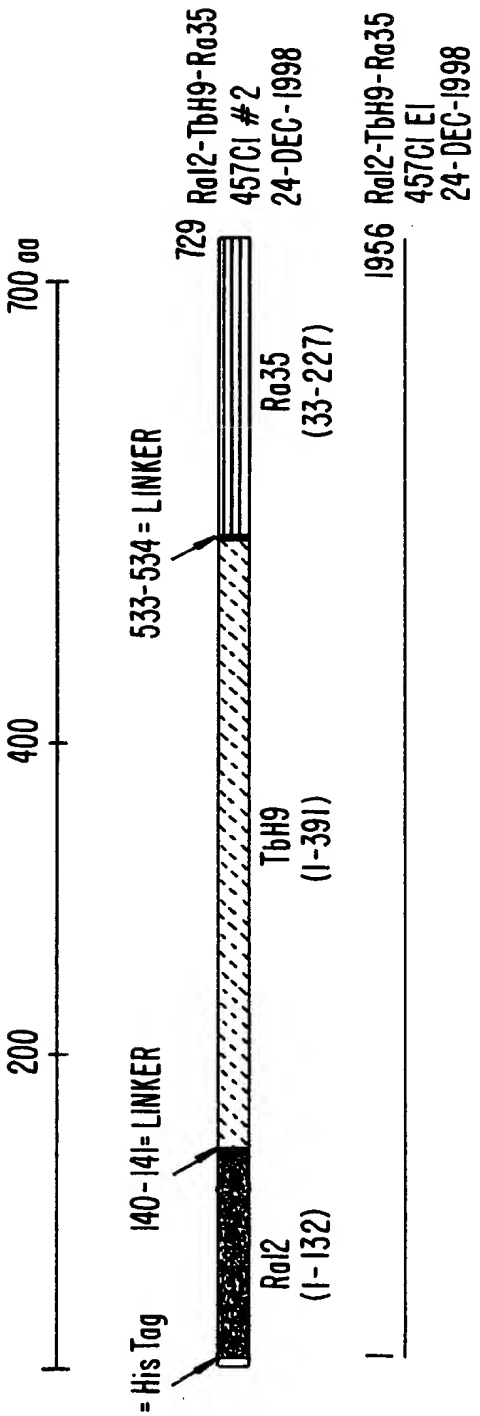

FIG. 3.

Ra35 N-terminus DNA

```
gccccgccgg ccttgtcgca ggaccggttc gccgacttcc ccgcgctgcc cctcgacccg tccgcgatgg 70
tcgcccaagt ggggccacag gtggtcaaca tcaacaccaa actgggctac aacaacgccg tgggcgccgg 140
gaccggcatc gtcatcgatc ccaacggtgt cgtgctgacc aacaaccacg tgatcgcggg cgccaccgac 210
atcaatgcgt tcagcgtcgg ctccggccaa acctacggcg tcgatgtggt cgggtatgac cgcacccagg 280
atgtcgcggt gctgcagctg cgcggtgccg gtggcctacc atcggcggcg atcggtggcg gcgtcgcggt 350
tggtgagccc gtcgtcgcga tgggcaacag cggtgggcag ggcggaacgc cccgtgcggt gcctggcagg 420
gtggtcgcgc tcggccaaac cgtgcaggcg tcggattcgc tgaccggtgc cgaagagaca ttgaacgggt 490
tgatccagtt cgatgccgcg atccagcccg gtgattcggg cgggcccgtc gtcaacggcc taggacaggt 560
ggtcggtatg aacacggccg cgtcctag                                          588
```

Ra35 N-terminus amino acid sequence

```
Ala Pro Pro Ala Leu Ser Gln Asp Arg Phe Ala Asp Phe Pro Ala Leu Pro Leu Asp Pro Ser Ala
                5                  10                  15                  20

Met Val Ala Gln Val Gly Pro Gln Val Val Asn Ile Asn Thr Lys Leu Gly Tyr Asn Asn Ala Val
            25                  30                  35                  40

Gly Ala Gly Thr Gly Ile Val Ile Asp Pro Asn Gly Val Val Leu Thr Asn Asn His Val Ile Ala
        45                  50                  55                  60                  65

Gly Ala Thr Asp Ile Asn Ala Phe Ser Val Gly Ser Gly Gln Thr Tyr Gly Val Asp Val Val Gly
                70                  75                  80                  85

Tyr Asp Arg Thr Gln Asp Val Ala Val Leu Gln Leu Arg Gly Ala Gly Gly Leu Pro Ser Ala Ala
            90                  95                  100                 105                 110
```

FIG. 4.

```
Ile Gly Gly Gly Val Ala Val Gly Glu Pro Val Val Ala Met Gly Asn Ser Gly Gly Gln Gly Gly
                115                 120                 125                 130

Thr Pro Arg Ala Val Pro Gly Arg Val Val Ala Leu Gly Gln Thr Val Gln Ala Ser Asp Ser Leu
        135                 140                 145                 150

Thr Gly Ala Glu Glu Thr Leu Asn Gly Leu Ile Gln Phe Asp Ala Ala Ile Gln Pro Gly Asp Ser
155                 160                 165                 170                 175

Gly Gly Pro Val Val Asn Gly Leu Gly Gln Val Val Gly Met Asn Thr Ala Ala Ser
            180                 185                 190                 195
```

FIG. 4. (CONTINUED)

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```
                Ra12
1   MHHHHHHTAASDNFQLSQGGQGFAIPIGQAMAIAGQIRSGGGSPTVHIGPTAFLG Mtb72f
1   MHHHHHHTAASDNFQLSQGGQGFAIPIGQAMAIAGQIRSGGGSPTVHIGPTAFLG Mtb72f-mutSA

56  LGVVDNNGNGARVQRVVGSAPAASLGISTGDVITAVDGAPINSATAMADALNGHH Mtb72f
56  LGVVDNNGNGARVQRVVGSAPAASLGISTGDVITAVDGAPINSATAMADALNGHH Mtb72f-mutSA
                                        TbH9FL
111 PGDVISVTWQTKSFFTRTFNVTLAEGPPAEFMVDFGALPPEINSARMYAGPGSAS Mtb72f
111 PGDVISVTWQTKSFFTRTFNVTLAEGPPAEFMVDFGALPPEINSARMYAGPGSAS Mtb72f-mutSA

166 LVAAAQMWDSVASDLFSAASAFQSVVWGLTVGSWIGSSAGLMVAAASPYVAWMSV Mtb72f
166 LVAAAQMWDSVASDLFSAASAFQSVVWGLTVGSWIGSSAGLMVAAASPYVAWMSV Mtb72f-mutSA

221 TAGQAELTAAQVRVAAAAYETAYGLTVPPPVIAENRAELMILIATNLLGQNTPAI Mtb72f
221 TAGQAELTAAQVRVAAAAYETAYGLTVPPPVIAENRAELMILIATNLLGQNTPAI Mtb72f-mutSA

276 AVNEAEYGEMWAQDAAAMFGYAAATATATATLLPFEEAPEMTSAGGLLEQAAAVE Mtb72f
276 AVNEAEYGEMWAQDAAAMFGYAAATATATATLLPFEEAPEMTSAGGLLEQAAAVE Mtb72f-mutSA

331 EASDTAAANQLMNNVPQALQQLAQPTQGTTPSSKLGGLWKTVSPHRSPISNMVSM Mtb72f
331 EASDTAAANQLMNNVPQALQQLAQPTQGTTPSSKLGGLWKTVSPHRSPISNMVSM Mtb72f-mutSA

386 ANNHMSMTNSGVSMTNTLSSMLKGFAPAAAAQAVQTAAQNGVRAMSSLGSSLGSS Mtb72f
386 ANNHMSMTNSGVSMTNTLSSMLKGFAPAAAAQAVQTAAQNGVRAMSSLGSSLGSS Mtb72f-mutSA

441 GLGGGVAANLGRAASVGSLSVPQAWAAANQAVTPAARALPLTSLTSAAERGPGQM Mtb72f
441 GLGGGVAANLGRAASVGSLSVPQAWAAANQAVTPAARALPLTSLTSAAERGPGQM Mtb72f-mutSA
```

FIG. 5.

```
                                                    Ra35
496 LGGLPVGQMGARAGGGLSGVLRVPPRPYVMPHSPAAGDIAPPALSQDRFADFPAL Mtb72f
496 LGGLPVGQMGARAGGGLSGVLRVPPRPYVMPHSPAAGDIAPPALSQDRFADFPAL Mtb72f-mutSA

551 PLDPSAMVAQVGPQVVNINTKLGYNNAVGAGTGIVIDPNGVVLTNNNVIAGATDI Mtb72f
551 PLDPSAMVAQVGPQVVNINTKLGYNNAVGAGTGIVIDPNGVVLTNNHVIAGATDI Mtb72f-mutSA

606 NAFSVGSGQTYGVDVVGYDRTQDVAVLQLRGAGGLPSAAIGGGVAVGEPVVAMGN Mtb72f
606 NAFSVGSGQTYGVDVVGYDRTQDVAVLQLRGAGGLPSAAIGGGVAVGEPVVAMGN Mtb72f-mutSA

661 SGGQGGTPRAVPGRVVALGQTVQASDSLTGAEETLNGLIQFDAAIQPGDSGGPVV Mtb72f
661 SGGQGGTPRAVPGRVVALGQTVQASDSLTGAEETLNGLIQFDAAIQPGDAGGPVV Mtb72f-mutSA

716 NGLGQVVGMNTAAS                                          Mtb72f
716 NGLGQVVGMNTAAS                                          Mtb72f-mutSA
```

FIG. 5. ***(CONTINUED)***

FIG. 6.

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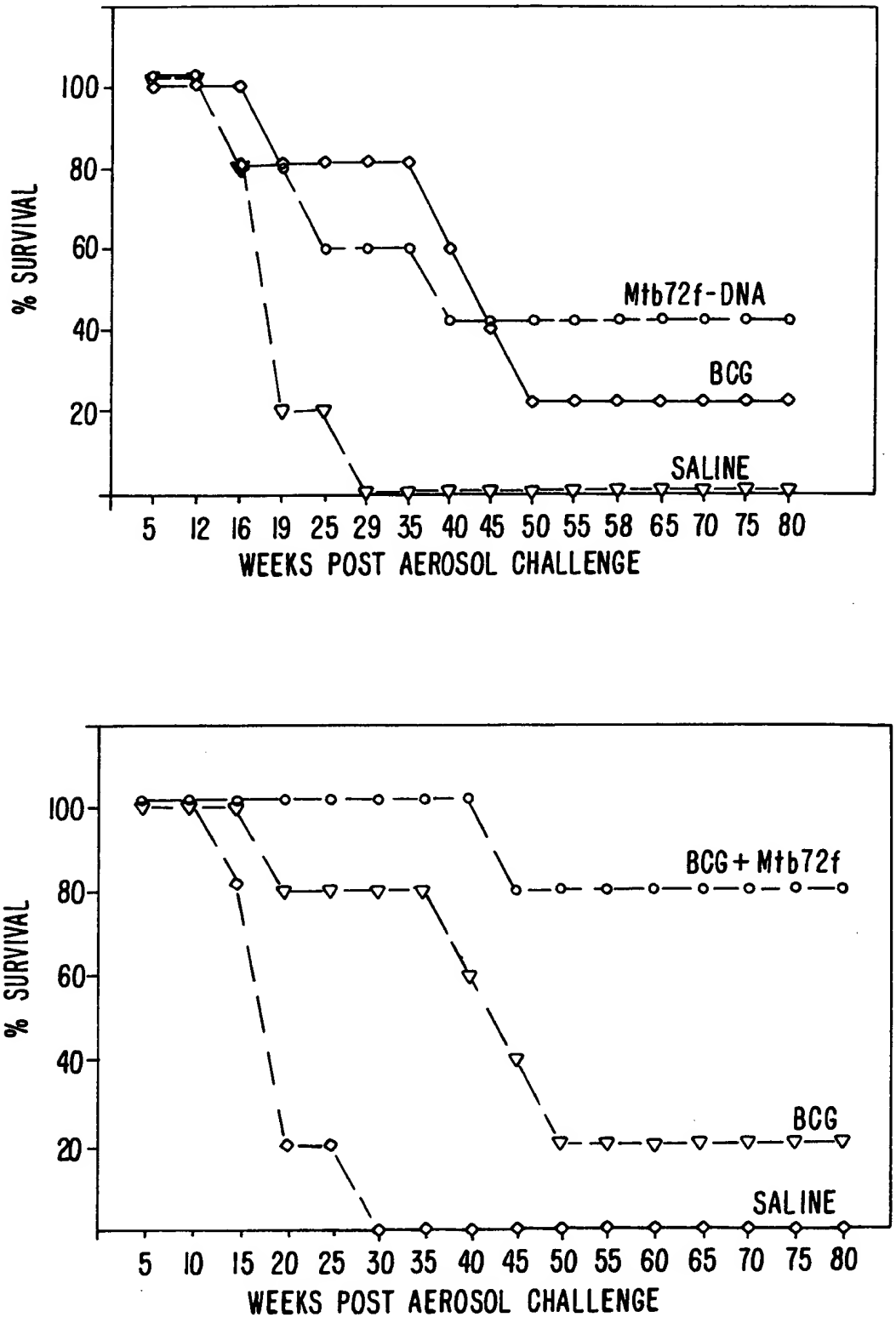

FIG. 7.